



**Oracle 12.1.0.2
October 2015 PSU
Instructions for Voyager**

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Oracle 12.1.0.2 October 2015 PSU Instructions for Voyager

Overview of Oracle Patch Set Update & Bug Fix Patch

The Oracle 12.1.0.2.5 patch set update (PSU) is last updated on Oct 22, 2015

- This PSU is applicable for the Oracle 12.1.0.2 database server
- Oracle clients are not applicable
- The existing Oracle database must have been upgraded to the version 12.1.0.2.0 (using Voyager standard procedure, via VIK or manually)
- 500MB disk space
- This PSU is available to Voyager customers for Solaris SPARC 64-bit and Linux x86_64.

Oracle 12.1.0.2 Patch Set Information

- Version: 12.1.0.2.5
- Patch 21359755: DATABASE PATCH SET UPDATE 12.1.0.2.5, last Updated Oct 22, 2015
- OPatch Utilities for Oracle 12c (Patch 6880880): version 12.1.0.1.9 for Oracle software releases 12.1.0.x (OCT 2015), last Updated Oct 12
- Documents:
 - https://support.oracle.com/epmos/faces/DocumentDisplay?_afLoop=222068101055461&id=2037108.1&_afWindowMode=0&_adf.ctrl-state=u6ab4nbe2_170#BABFCHHD
 - <https://updates.oracle.com/Orion/Services/download?type=readme&aru=19273886>

Download Oracle 12.1.0.2 Patch Files

1. Download the Oracle 12.1.0.2.5 patchset file p21359755_121020_<OS>.zip.
2. Download the OPatch Utility package p6880880_121010_<OS>.zip
3. Download the files from ExLibris FTP server to /m1/incoming/oracle
 - a. Cd /m1/incoming/oracle
 - b. ftp <ftp.exlibris-usa.com>
 - c. login as oracle
 - d. cd PSU/<OS>/12.1.0.2.5
 - e. bin
 - f. hash
 - g. prompt
 - h. mget *.zip
 - i. quit

Stop Oracle Services and Applications Connecting to Oracle Database

All Applications that connect to Oracle database should be stopped during the Oracle patch process.

```
su - root
/etc/init.d/voyager stop
/etc/init.d/cognos stop // if installed
```

Stop Oracle database and listener services on UNIX

```
su - root
/etc/init.d/dbora stop
```

Ensure ALL oracle services are stopped and no longer running. If any services are running, please make sure to stop them completely!!!

```
ps -ef | grep -i ora
```

Note for Solaris 10: Oracle services were likely implemented as SMF services on Solaris 10. Please double check that SMF oracle services are tentatively disabled if you're running this patch manually.

```
svcs -a | grep Ora
disabled 10:19:28 svc:/site/ExLibris/Oracle/VGER:default
disabled 10:19:30 svc:/site/ExLibris/Oracle/olisten:default
```

Prepare for the Patch Environment

Perform all the following work as the oracle user. Ensure that ORACLE_HOME and ORACLE_SID are set correctly to /oracle/app/oracle/product/12.1.0.2/db_1, the home of oracle home and oracle instance.

```
su - oracle
echo $ORACLE_HOME
echo $ORACLE_SID
```

Ensure that Perl is /m1/shared/bin/perl. If not installed, please download the SHARED package (8.2.0) from ExLibris and install Perl first

```
which perl
```

Check system compiler/linking tools as needed by the Oracle Patch, mostly they are located in /usr/ccs/bin (Solaris) or /usr/bin (Linux).

```
export PATH=$PATH:/usr/ccs/bin
which make
which ar
which ld
which nm
```

Update the Oracle OPatch Utility

Backup the existing \$ORACLE_HOME/OPatch directory

```
cd $ORACLE_HOME
mv OPatch OPatch.OLD
```

Install the new OPatch utility onto \$ORACLE_HOME

```
cd $ORACLE_HOME
unzip /m1/incoming/oracle/p6880880_121010_*.zip
```

Install the 12.1.0.2.5 Patchset and Check for Patch Conflicts

```
Unzip the p21359755_121020_<OS>.zip onto $ORACLE_HOME/OPatch
cd $ORACLE_HOME/OPatch
unzip /m1/incoming/oracle/p21359755_121020_*.zip
```

List the products installed in the oracle inventory by running the following command:

```
opatch lsinventory
```

Determine whether any currently installed one-off patches conflict with the PSU patch as follows

```
cd $ORACLE_HOME/OPatch/21359755
opatch prereq CheckConflictAgainstOHWithDetail -ph ./
```

The output will look similar to the following:

```
Oracle Interim Patch Installer version 12.1.0.1.9
Copyright (c) 2015, Oracle Corporation. All rights reserved.

PREREQ session

Oracle Home      : /oracle/app/oracle/product/12.1.0.2/db_1
Central Inventory : /oracle/app/oracle/oraInventory
   from           : /oracle/app/oracle/product/12.1.0.2/db_1/oraInst.loc
OPatch version   : 12.1.0.1.9
OUI version      : 12.1.0.2.0
Log file location : /oracle/app/oracle/product/12.1.0.2/db_1/cfgtoollogs/opatch/opatch2015-11-02_21-42-47PM_1.log

Invoking prereq "checkconflictagainsthwithdetail"

Prereq "checkConflictAgainstOHWithDetail" passed.

OPatch succeeded.
```

Please review the log file at the Log file location.

If the report indicates PSU 21359755 is a superset and there are no obvious conflicts, then proceed with the patch installation process below.

Apply the Patchset

Again, ensure all Oracle database and Listener services are shutdown:

```
ps -ef | grep -i ora
```

Change to \$ORACLE_HOME/OPatch/21359755 and apply the patch

```
cd $ORACLE_HOME/OPatch/21359755
opatch apply
```

When prompted for questions, please enter "Y". No need to enter your email address when asked. Below is a sample output of running this PSU on a Linux server.

```
Oracle Interim Patch Installer version 12.1.0.1.9
Copyright (c) 2015, Oracle Corporation. All rights reserved.

Oracle Home      : /oracle/app/oracle/product/12.1.0.2/db_1
Central Inventory : /oracle/app/oracle/oraInventory
  from            : /oracle/app/oracle/product/12.1.0.2/db_1/oralnst.loc
OPatch version   : 12.1.0.1.9
OUI version      : 12.1.0.2.0
Log file location : /oracle/app/oracle/product/12.1.0.2/db_1/cfgtoollogs/opatch/opatch2015-11-02_21-44-30PM_1.log

Verifying environment and performing prerequisite checks...
OPatch continues with these patches: 20831110 21359755

Do you want to proceed? [y|n]
y
User Responded with: Y
All checks passed.
Provide your email address to be informed of security issues, install and
initiate Oracle Configuration Manager. Easier for you if you use your My
Oracle Support Email address/User Name.
Visit http://www.oracle.com/support/policies.html for details.
Email address/User Name:

You have not provided an email address for notification of security issues.
Do you wish to remain uninformed of security issues ([Y]es, [N]o) [N]: Y

Please shutdown Oracle instances running out of this ORACLE_HOME on the local system.
(Oracle Home = '/oracle/app/oracle/product/12.1.0.2/db_1')

Is the local system ready for patching? [y|n]
Y
User Responded with: Y
Backing up files...
Applying sub-patch '20831110' to OH '/oracle/app/oracle/product/12.1.0.2/db_1'

Patching component oracle.rdbms, 12.1.0.2.0...
....

Composite patch 21359755 successfully applied.
Log file location: /oracle/app/oracle/product/12.1.0.2/db_1/cfgtoollogs/opatch/opatch2015-11-02_21-44-30PM_1.log

OPatch succeeded.
```

Patch Post-Installation Instructions

Load modified SQL files into the database

```
sqlplus /nolog
SQL> connect / as sysdba
SQL> startup
SQL> quit
```

```
cd $ORACLE_HOME/OPatch
./datapatch -verbose
```

```
$ ./datapatch -verbose
SQL Patching tool version 12.1.0.2.0 on Mon Nov 2 21:48:20 2015
Copyright (c) 2015, Oracle. All rights reserved.

Log file for this invocation:
/oracle/app/oracle/cfgtoollogs/sqlpatch/sqlpatch_27282_2015_11_02_21_48_20/sqlpatch_i
nvocation.log

Connecting to database...OK
Bootstrapping registry and package to current versions...done
Determining current state...done

Current state of SQL patches:
Bundle series PSU:
  ID 5 in the binary registry and ID 3 in the SQL registry

Adding patches to installation queue and performing prereq checks...
Installation queue:
  Nothing to roll back
  The following patches will be applied:
    21359755 (Database Patch Set Update : 12.1.0.2.5 (21359755))

Installing patches...
Patch installation complete. Total patches installed: 1

Validating logfiles...
Patch 21359755 apply: SUCCESS
  logfile:
  /oracle/app/oracle/cfgtoollogs/sqlpatch/21359755/19194568/21359755_apply_MRDN_2015
  Nov02_21_49_04.log (no errors)
SQL Patching tool complete on Mon Nov 2 21:49:19 2015
```

Please review the named log file at the location specified above for any errors.

```
21359755_apply_<SID>_<timestamp>.log
```

Recompile invalid objects

To ensure all dependent objects are valid after running catbundle.sql, load utlrlp.sql and check for any invalid objects. If invalid objects found, please recompile and fix as appropriate.

```
sqlplus / as sysdba
SQL> SELECT owner, object_name, object_type from dba_objects where status <> 'VALID';
```

If there are any invalid objects, please run utlrlp.sql to recompile.

```
cd $ORACLE_HOME/rdbms/admin
SQL>@utlrlp.sql
SQL> SELECT owner, object_name, object_type from dba_objects where status <> 'VALID';
SQL> quit
```

If you are using the Oracle Recovery Manager (RMAN), the catalog needs to be upgraded.

```
lsnrctl start // start Listener first if not
rman catalog username/password@alias
RMAN> UPGRADE CATALOG;
```

Shut down the instance again to complete the patch update.

```
sqlplus / as sysdba
shutdown immediate;
quit;
ps -ef | grep oracle // double check
```

NOTE for multiple instances associated with same ORACLE_HOME - You must execute the steps in **“Load modified SQL files into the database” to update other instances.** For example, if MRDN instance is also installed under this ORACLE_HOME, then **“export ORACLE_SID=MRDN”** and repeat the steps above.

Start Up Oracle Services & Applications

On UNIX:

```
su - root
/etc/init.d/dbora start
/etc/init.d/httpd2 restart // if Apache server runs on this server
/etc/init.d/voyager start // if Voyager applications run on this server
/etc/init.d/cognos start // if Analyzer runs on this server
```

Note that on Solaris 10, the SMF oracle services will be re-enabled and brought back online. You can verify by typing:

```
# svcs -a | grep -i ora
online 12:29:10 svc:/site/ExLibris/Oracle/olisten:default
online 12:29:24 svc:/site/ExLibris/Oracle/VGER:default
```


Testing Voyager database connections

Test as oracle user and then by voyager user

Test on the database server and also application server if separated from the DB server.

Ensure the oracle databases are connectible by the voyager user.

Ensure Voyager or Analyzer applications run well